

WHAT IS CLAIMED IS:

1. A method for booting up a multiple function device, the method comprises:

determining a configuration state of the multiple function device;  
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selecting one of a plurality of functional modes based on the configuration state;  
accessing memory of the multiple function handheld device to retrieve a functional algorithm corresponding to the one of the plurality of functional modes;  
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determining whether the functional algorithm is executable;  
when the functional algorithm is not executable,  
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determining whether the multiple function device is operably coupled to a host;  
when the multiple function device is operable coupled to the host, downloading the functional algorithm from the host; and  
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executing the functional algorithm.

2. The method of Claim 1 wherein the plurality of functional modes comprises at least two of:

a digital audio player;  
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a file storage;  
a digital multimedia player;  
an extended memory device;  
a digital audio recorder;  
a digital multimedia recorder;  
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a personal data assistant; and  
an extended memory device with a set of instructions to repair the second boot algorithm.

3. The method of Claim 1 wherein the functional algorithms configure the multiple function device as an extended memory device when the multiple function device is operable coupled to the host.

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4. The method of Claim 3, wherein the extended memory device receives a set of instructions to repair the functional algorithm corresponding to the plurality of functional modes from the host.

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5. The method of Claim 1, wherein downloading the functional algorithm occurs prior to expiration of a time out period when the multiple function device is operably coupled to the host.

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6. The method of Claim 5, further comprising shutting down the multiple function device after expiration of a time out period when the multiple function device is not operably coupled to the host.

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7. The method of Claim 1, wherein the configuration state includes booting inputs that comprise boot pins and wherein a location of the functional algorithm is specified by the configuration state.

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8. The method of Claim 5, wherein the location of the functional algorithm corresponds to an accessible memory location selected from the group consisting of:

universal serial bus (USB) extended memory;  
5 flash memory;  
EPROM;  
I2C memory device;  
removable disk memory; and  
hard-drive memory.

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9. The method of Claim 1, wherein an event that triggers booting up comprises a change in status of an operable connection between the multiple function device and the host.

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10. The method of Claim 9, wherein an initial status of the operable connection is a 1<sup>st</sup> external state, and wherein following the change the operable connection is a 2<sup>nd</sup> external state.

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11. The method of Claim 10, wherein in the 1<sup>st</sup> external state the multiple function device is operable coupled to the host and wherein in the 2<sup>nd</sup> external state the multiple function device is not operable coupled to any host.

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12. The method of Claim 10, wherein in the 1<sup>st</sup> external state the multiple function device is not operable coupled to any host and wherein in the 2<sup>nd</sup> external state the multiple function is operable coupled to the host.

13. The method of Claim 10, wherein in the 1<sup>st</sup> external state the multiple function device is operable coupled to a first host and wherein in the 2<sup>nd</sup> external state the multiple function device is operable coupled to a second host.

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14. An apparatus for booting up a multiple function device, the apparatus comprises:

processing module;

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read only memory; and

10 memory, wherein the processing module functions to:

determine a configuration state of the multiple function device;

select one of a plurality of functional modes based on the configuration state;

15 access memory of the multiple function handheld device to retrieve a functional algorithm corresponding to the one of the plurality of functional modes;

determine whether the functional algorithm is executable;

20 determine whether the multiple function device is operably coupled to a host, when the functional algorithm is not executable;

download the functional algorithm from the host, when the multiple function device is operable coupled to the host; and

25 execute the functional algorithm.

15. The apparatus of Claim 14, wherein the plurality of functional modes comprises at least two of:

5                   a digital audio player;  
                  a file storage;  
                  a digital multimedia player;  
                  an extended memory device;  
                  a digital audio recorder;  
                  a digital multimedia recorder;  
                  a personal data assistant; and  
10                   an extended memory device with a set of instructions to repair the second boot algorithm.

16. The apparatus of Claim 14, wherein the functional algorithms configure the multiple function device as an extended  
15                   memory device when the multiple function device is operable coupled to the host.

20                   17. The apparatus of Claim 14, wherein the processing module further functions to repair the functional algorithm when the functional algorithm is not executable.

25                   18. The apparatus of Claim 14, wherein downloading the functional algorithm occurs prior to expiration of a time out period when the multiple function device is operably coupled to the host.

30                   19. The apparatus of Claim 18, further comprising shutting down the multiple function device after expiration of a time out period when the multiple function device is not operably coupled to the host.

20. The apparatus of Claim 14, wherein the configuration state includes booting inputs that comprise boot pins and wherein a location of the functional algorithm is specified by the configuration state.

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21. The apparatus of Claim 20, wherein the location of the functional algorithm corresponds to an accessible memory location selected from the group consisting of:

universal serial bus (USB) extended memory;  
10 flash memory;  
EPROM;  
I2C memory device;  
removable disk memory; and  
hard-drive memory.

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22. The apparatus of Claim 14, wherein an event that triggers booting up comprises a change in status of an operable connection between the multiple function device and the host.

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23. The apparatus of Claim 22, wherein an initial status of the operable connection is a 1<sup>st</sup> external state, and wherein following the change the operable connection is a 2<sup>nd</sup> external state.

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24. The apparatus of Claim 23, wherein in the 1<sup>st</sup> external state the multiple function device is operable coupled to the host and wherein in the 2<sup>nd</sup> external state the multiple function device is not operable coupled to any host.

25. The apparatus of Claim 23, wherein in the 1<sup>st</sup> external state the multiple function device is not operable coupled to any host and wherein in the 2<sup>nd</sup> external state the multiple function is operable coupled to the host.

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26. The apparatus of Claim 23, wherein in the 1<sup>st</sup> external state the multiple function device is operable coupled to a first host and wherein in the 2<sup>nd</sup> external state the multiple function device is operable coupled to a second host.

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